

Product datasheet

Anti-mTOR antibody [Y391] - BSA and Azide free ab218525

Recombinant RabMAb

5 Images

Overview

Product name	Anti-mTOR antibody [Y391] - BSA and Azide free
Description	Rabbit monoclonal [Y391] to mTOR - BSA and Azide free
Host species	Rabbit
Specificity	Expression levels of the target protein vary with sample type and some optimisation may be required.
Tested applications	Suitable for: ChIP, WB, IP, IHC-P Unsuitable for: Flow Cyt or ICC/IF
Species reactivity	Reacts with: Mouse, Rat, Human
Immunogen	Synthetic peptide (the amino acid sequence is considered to be commercially sensitive) within Human mTOR aa 2400-2500 (C terminal). The exact sequence is proprietary. (Peptide available as ab193663)
Epitope	ab32028 reacts with an epitope located in the C terminal region of mTOR.
Positive control	WB: HeLa, Jurkat, Raw264.7 and MCF7 cell lysates and rat brain tissue lysate. IHC-P: Human prostate carcinoma, human breast carcinoma, mouse testis and rat testis tissues. IP: Rat brain tissue lysate and HeLa whole cell lysate (ab150035).
General notes	Ab218525 is the carrier-free version of ab32028 . This format is designed for use in antibody labeling, including fluorochromes, metal isotopes, oligonucleotides, enzymes.

Our [carrier-free formats](#) are supplied in a buffer free of BSA, sodium azide and glycerol for higher conjugation efficiency.

Use our [conjugation kits](#) for antibody conjugates that are ready-to-use in as little as 20 minutes with <1 minute hands-on-time and 100% antibody recovery: available for fluorescent dyes, HRP, biotin and gold.

ab218525 is compatible with the Maxpar® Antibody Labeling Kit from Fluidigm.

Maxpar® is a trademark of Fluidigm Canada Inc.

Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to [RabMab® patents](#).

This product is a [recombinant rabbit monoclonal antibody](#).

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Store at +4°C short term (1-2 weeks). Upon delivery aliquot. Store at -20°C long term. Avoid freeze / thaw cycle.
Storage buffer	pH: 7.20 Constituent: PBS
Purity	Protein A purified
Clonality	Monoclonal
Clone number	Y391
Isotype	IgG

Applications

Our [Abpromise guarantee](#) covers the use of **ab218525** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ChIP		Use at an assay dependent concentration. PubMed: 20233713
WB		Use at an assay dependent concentration. Detects a band of approximately 250 kDa (predicted molecular weight: 289 kDa). Can be blocked with mTOR peptide (ab193663) .
IP		Use at an assay dependent concentration.
IHC-P		Use at an assay dependent concentration. Perform heat mediated antigen retrieval before commencing with IHC staining protocol. See IHC antigen retrieval protocols .

Application notes Is unsuitable for Flow Cyt or ICC/IF.

Target

Function Kinase subunit of both mTORC1 and mTORC2, which regulates cell growth and survival in response to nutrient and hormonal signals. mTORC1 is activated in response to growth factors or amino-acids. Growth factor-stimulated mTORC1 activation involves AKT1-mediated phosphorylation of TSC1-TSC2, which leads to the activation of the RHEB GTPase that potently activates the protein kinase activity of mTORC1. Amino-acid-signaling to mTORC1 requires its relocalization to the lysosomes mediated by the Ragulator complex and the Rag GTPases. Activated mTORC1 up-regulates protein synthesis by phosphorylating key regulators of mRNA translation and ribosome synthesis. mTORC1 phosphorylates EIF4EBP1 and releases it from inhibiting the elongation initiation factor 4E (eIF4E). mTORC1 phosphorylates and activates S6K1 at 'Thr-421', which then promotes protein synthesis by phosphorylating PDCD4 and targeting it for degradation. Phosphorylates MAF1 leading to attenuation of its RNA polymerase III-repressive function. mTORC2 is also activated by growth factors, but seems to be nutrient-

insensitive. mTORC2 seems to function upstream of Rho GTPases to regulate the actin cytoskeleton, probably by activating one or more Rho-type guanine nucleotide exchange factors. mTORC2 promotes the serum-induced formation of stress-fibers or F-actin. mTORC2 plays a critical role in AKT1 'Ser-473' phosphorylation, which may facilitate the phosphorylation of the activation loop of AKT1 on 'Thr-308' by PDK1 which is a prerequisite for full activation. mTORC2 regulates the phosphorylation of SGK1 at 'Ser-422'. mTORC2 also modulates the phosphorylation of PRKCA on 'Ser-657'.

Tissue specificity

Expressed in numerous tissues, with highest levels in testis.

Sequence similarities

Belongs to the PI3/PI4-kinase family.

Contains 1 FAT domain.

Contains 1 FATC domain.

Contains 7 HEAT repeats.

Contains 1 PI3K/PI4K domain.

Post-translational modifications

Autophosphorylated; when part of mTORC1 or mTORC2.

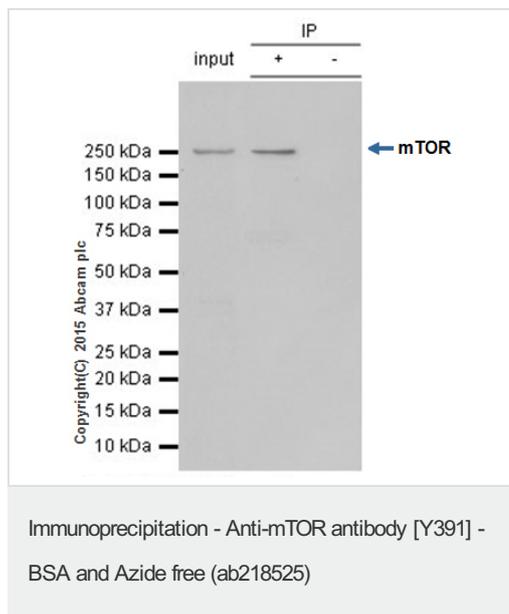
Cellular localization

Endoplasmic reticulum membrane. Golgi apparatus membrane. Mitochondrion outer membrane.

Lysosome. Cytoplasm. Nucleus > PML body. Shuttles between cytoplasm and nucleus.

Accumulates in the nucleus in response to hypoxia (By similarity). Targeting to lysosomes depends on amino acid availability and RRAGA and RRAGB.

Images



[ab32028](#) (purified) at a dilution of 1/100

immunoprecipitating mTOR in HeLa whole cell lysate.

Lane 1 (input): HeLa whole cell lysate (10µg)

Lane 2 (+): [ab32028](#) + HeLa whole cell lysate.

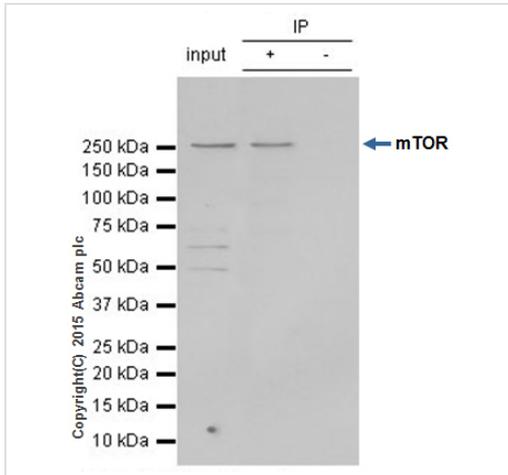
Lane 3 (-): Rabbit monoclonal IgG ([ab172730](#)) instead of [ab32028](#) in HeLa whole cell lysate.

For western blotting, [ab131366](#) VeriBlot for IP (HRP) was used for detection at 1/1000 dilution.

Blocking buffer and concentration: 5% NFDm/TBST.

Diluting buffer and concentration: 5% NFDm /TBST.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab32028](#)).



Immunoprecipitation - Anti-mTOR antibody [Y391] - BSA and Azide free (ab218525)

[ab32028](#) (purified) at a dilution of 1/100

immunoprecipitating mTOR in rat brain tissue lysate.

Lane 1 (input): Rat brain tissue lysate (10µg)

Lane 2 (+): [ab32028](#) + rat brain tissue lysate.

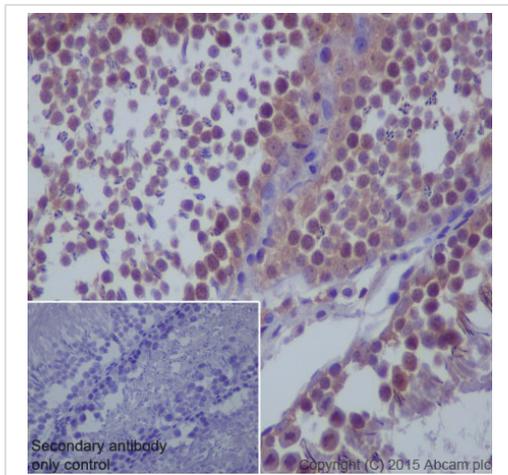
Lane 3 (-): Rabbit monoclonal IgG ([ab172730](#)) instead of [ab32028](#) in rat brain tissue lysate.

For western blotting, [ab131366](#) VeriBlot for IP (HRP) was used for detection at 1/1000 dilution.

Blocking buffer and concentration: 5% NFDm/TBST.

Diluting buffer and concentration: 5% NFDm /TBST.

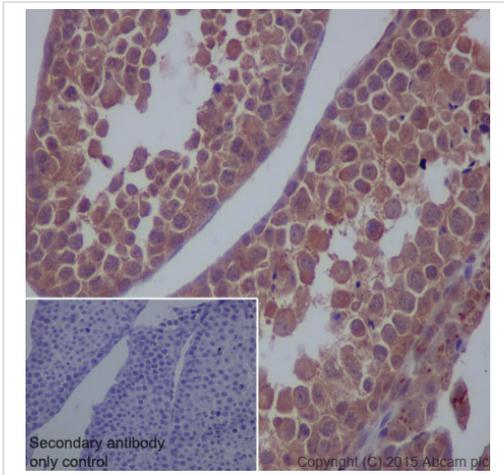
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab32028](#)).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-mTOR antibody [Y391] - BSA and Azide free (ab218525)

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of rat testis tissue labelling mTOR with purified [ab32028](#) at a dilution of 1/400. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. [ab97051](#), a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

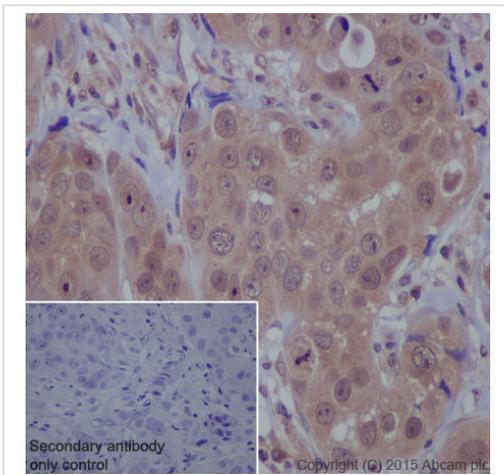
This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab32028](#)).



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of mouse testis tissue labelling mTOR with purified [ab32028](#) at a dilution of 1/400. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. [ab97051](#), a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab32028](#)).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-mTOR antibody [Y391] - BSA and Azide free ([ab218525](#))



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) analysis of human breast carcinoma tissue labelling mTOR with purified [ab32028](#) at a dilution of 1/400. Heat mediated antigen retrieval was performed using EDTA buffer pH 9. [ab97051](#), a HRP-conjugated goat anti-rabbit IgG (H+L) was used as the secondary antibody (1/500). Negative control using PBS instead of primary antibody. Counterstained with hematoxylin.

This data was developed using the same antibody clone in a different buffer formulation containing PBS, BSA, glycerol, and sodium azide ([ab32028](#)).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-mTOR antibody [Y391] - BSA and Azide free ([ab218525](#))

Please note: All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES"

Our Abpromise to you: Quality guaranteed and expert technical support

- Replacement or refund for products not performing as stated on the datasheet
- Valid for 12 months from date of delivery

- Response to your inquiry within 24 hours
- We provide support in Chinese, English, French, German, Japanese and Spanish
- Extensive multi-media technical resources to help you
- We investigate all quality concerns to ensure our products perform to the highest standards

If the product does not perform as described on this datasheet, we will offer a refund or replacement. For full details of the Abpromise, please visit <https://www.abcam.com/abpromise> or contact our technical team.

Terms and conditions

- Guarantee only valid for products bought direct from Abcam or one of our authorized distributors